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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,928	02/21/2007	Peter J. Smith	19339-105236	8739

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EXAMINER	
CAHN, DANIEL P	
ART UNIT	PAPER NUMBER
3634	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,928	SMITH ET AL.	
	Examiner	Art Unit	
	DANIEL CAHN	3634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *6 and 18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 May 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/30/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continuing Data

Acknowledgement of the 371 of PCT/CA04/02075, 12/03/2004 which claims benefit of 30/527312 on 12/05/2003 has been made.

Information Disclosure Statement

The information disclosure statement dated 05/30/2006 has been received and a copy has been placed in the file.

Election/Restrictions

Claims 6 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 05/08/2009. Applicant has elected Species 1 with Subspecies 1A (Fig.'s 1-6C).

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, 1) the guide having a radius of curvature concentric with the radius of curvature of the window and 2) the runner as having the channel and the carrier as having the shaft must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not explained in the specification how the "shaft is rotatable about the rotational axis". Is it connected to the runner by some connection that allows it to spin? Is it supposed to the carrier supposed to just rotate about the shaft or the shaft itself actually rotate?

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 and 7-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1,

- the final paragraph is written so as to be unclear what is “to permit nonparallel movement of the carrier with respect to the rod.” Is the translatable movement with respect to the central axis, the rotatable movement or both meant to permit nonparallel movement?
- in the same phrase as above, the term, “with respect to the central axis” is also unclear as to whether the translatable movement is from the bottom of the guide rod to the top or whether it is to travel orthogonally away from the axis of the guide rod.
- moreover, in the first line of the last paragraph, it is unclear as to whether the axis of the rod is orthogonal to the central axis or the runner and the carrier are rotatably connected to each other orthogonal to the axis of the rod.
- the limitation "the central axis" in the final paragraph has insufficient antecedent basis in the claim.
- the word “thereby” in the phrase “movement thereby” is awkward and indefinite.

Regarding claim 2,

- in the first sentence, the word 'and' in the phrase "mounted to said carrier, and further comprising" makes the claim unclear as to whether the system is further comprising first and second glass run channels or whether the arcuate window is further comprising them.

Regarding claim 3,

- in the first sentence, the word 'and' in the phrase "mounted to said carrier, and further comprising" makes the claim unclear as to whether the system further comprises a guide or if an arcuate window is further comprising a guide.
- claim 3 recites the limitation "the radius of curvature of the window" in the third line. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 4,

- the phrase "one or the other of the runner and carrier" is improper and unclear.
- claim 4 recites the limitation "the other" in line 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 5,

- the phrase "provided by" is unclear. Is the trunnion the shaft, or does the shaft have a separate element on it called a trunnion?

Regarding claim 9,

- it is unclear what exactly is meant by the term 'radially movable' in the second line of the final paragraph. It could mean move along the path of an arc of a circle or to simply move along a line such as a radius/diameter line of a circle.
- the phrase "the lower and upper positions" is unclear. Is there more than one lower position and more than one upper position? Examiner believes this should possibly not be plural.
- it is unclear what in the final paragraph is "permitting movement of the window along an arcuate path". Is it the rotatable connection along the rotational axis, the carrier as radially movable with respect to the central axis of the rod, the runner moving to an upper and lower position or a combination of all of the elements of the instant invention are discussed in detail above except providing them?

Regarding claim 10,

- in the first line, the term "defining" is unclear. Is the linear element the first axis or does the linear element have a first axis?
- the word "substantially" is unclear since it is hard to know how much similar it has to be to be considered substantially identical or how close to a right angle it must be to be considered substantially orthogonal.

Regarding claim 11,

- the word "substantially" is unclear since it is hard to know how much similar it has to be to be considered substantially identical.

Regarding claim 14,

- the word “substantially” is unclear since it is hard to know at what angle something must be and how much parallel it has to be in order to be considered substantially parallel.
- claim 14 recites the limitation "the pair" in the third line. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 15,

- it is unclear how the arcuate guide differs from the glass run channel in claim 11.
- the word “substantially” is unclear since it is hard to know how much similar it has to be to be considered substantially matching.

Regarding claim 16,

- claim 16 recites the limitation "the pair" in line 3. There is insufficient antecedent basis for this limitation in the claim.
- the word “substantially” is unclear since it is hard to know how much similar it has to be to be considered substantially parallel.

Regarding claim 17,

- the word “substantially” is unclear since it is hard to know how much linear it has to be to be considered a substantially linear channel.
- it is unclear a hollow space or well or channel can define an axis. Could not any direction constitute an axis defined by a 3-dimensional channel?

In other words, a channel could have an infinite amount of axes, therefore the channel does not define just one axis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

As best understood; claims 1, 3, 4, 5, 10, 11, 12, 15, 16 and 17 are rejected under 35 U.S.C. 102(b) as being unpatentable by Martens (US 3228677).

Regarding claim 1, **a guide rod** (32; Fig. 4) **having a linear axis** (From the bottom of the rod to the top)**;**

a runner (65; Fig. 5) **connected to the rod for movement therealong between a first position** (bottom of guide rod) **and a second position** (top of guide rod)**; and a window carrier** (27; Fig. 6) **engaged by the runner** (via spools 69 and 70; Fig. 1 and 6) **for movement thereby;**

wherein the runner and carrier are rotatably connected to each other about a rotational axis orthogonal to the axis of the rod (the rotational axis being perpendicular to the guide rod 32 and going from the left side of the page to the right in Fig. 1; this rotation is discussed in excerpt 1 below by using the word inclination) **and translatable with respect to the central axis** (or linear axis) **as the runner moves between the first and second positions, to permit nonparallel movement of the**

carrier with respect to the rod as the runner moves between the first and second positions (as discussed in excerpt 1 below).

Excerpt 1 from Column 3

in FIGURE 6. The connecting member 65 is made flexible to enable nut 43 to follow the straight screw 32 while driving footing 27 through a vertically curved path. The footing 27 is inclined in one direction from the vertical in its lowered position and in the other direction from the vertical in its raised position, due to the curvature of its path. Thus, the inclination of footing 27 with respect to spools 69 and 70 changes as the footing is raised or lowered. Formerly it was not uncommon for binding

Regarding claim 4 (as best understood), **one or the other of the runner and carrier defines a channel** (75 on the carrier; Fig. 1) **and the other** (being the runner) **of the runner and carrier comprises a shaft** (68; Fig. 6) **received in the channel, the shaft being rotatable** (or capable of rotating) **about said rotational axis, and translatable** (or capable of moving) **within the channel to obtain said non-parallel movement of the carrier** (as depicted in Fig. 1).

Regarding claim 5, **the shaft is provided by** (or is) **a trunnion** (68; Fig. 6)

Regarding claim 10, Martens teaches **a window regulator, comprising:**

a linear element or door (depicted in Fig. 4), **defining a first axis** (starting from the bottom of the door and continuing to the top along the path of element 32); **a runner translatable along** (or movable along via rod 32) **the linear element; and a window carrier** (27; Fig. 6) **pivotally and slidably connected to the runner** (as discussed in excerpt 1 above) **so as to translate along a second axis** (from left to right in Fig. 6 along the pin 68 or into the page of Fig. 1 going through the rod 32) **substantially**

orthogonal to the first axis and rotate about a third axis (from left to right of Fig. 1, orthogonal to rod 32) **substantially orthogonal to both the first and second axes.** As can be seen from Fig. 6, as discussed in excerpt 1 above, when the carrier 27 inclines or rotates it will move along the second axis (from left to right in Fig. 6) as well as rotate around the third axis (which goes into the page of Fig. 6).

Regarding claim 11, **an arcuate window** (the arcuate window is discussed in excerpt 2 below) **mounted to the window carrier** (as depicted in Fig. 6)**; and**

at least one arcuate glass run channel (84; discussed in excerpt 2 below) **having a curvature substantially identical to the curvature of the window, the window being slidably mounted in the at least one glass run channel** (as discussed in excerpt 2)**.**

Excerpt 2 from Column 3

End guide members **82** and **83** (FIGURES 1 and 4) are provided on the same side of curved glass window panel **25** as screw **32**, and a central guide member **84** is provided on the opposite side of window panel **25** adjacent inside panel **15**. These guide members are vertically curved to correspond substantially, but not exactly, with the curvature of the window panel **25**, and are suitably secured at their lower ends to the bottom **19** of the door and at their upper ends to the tops of panels **15** and **17**, respectively, adjacent opening **23**. The slight difference in curvatures of the guide members and window panel **25** causes a slight bind therebetween and prevents rattling of the window panel. The footing **27** is guided substantially vertically by the guide members **82**, **83** and **84** to move curved glass window panel **25** in a path which is substantially an extension of the curvature thereof. Pieces of felt, nylon or other suitable material may be secured to footing **27**, as at **85**, **86** and **87** in FIGURES 2 and 3, to prevent the rubbing of metal on metal.

Regarding claim 12, the system is including **means for translating the runner along the linear element** (via motor 30 and the carrier 27; Fig. 1), **whereby the runner follows a linear path** (via rod 32) **and the window and window carrier follow an arcuate path dictated by the glass run channels** (as discussed in excerpt 2 above).

Regarding claim 15, the system has **a frame** (82, 83 and 84; Fig. 1) **having an arcuate guide** (82 and 83; discussed in excerpt 2 above) **substantially matching the curvature of the window, and wherein the window carrier is slidably mounted to the arcuate guide** (via 89; as discussed in excerpt 2).

Regarding claim 16, **one of the runner and the carrier includes at least one channel** (75; Fig. 1) **extending substantially parallel to the second axis** (the depth of

the channel or hole extending into the page) **and the other of the pair includes at least one trunnion** (68; Fig. 6) **disposed in the channel** (as depicted between Fig.'s 1 and 6)**.**

Regarding claim 17, **the linear element is a frame** or door frame (15, 17 and 19; Fig. 4) **having a substantially linear channel** or well (21; Fig. 4) **therein defining the first axis, the runner being mounted in the channel** (via rod 32; Fig. 4)**.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martens (US 3228677) as applied to claim 1 above.

Regarding claim 2, **an arcuate window** (25; discussed in excerpt 2 above) **mounted to said carrier** (as depicted in Fig. 6)**, and further comprising first and second glass run channels** (82 and 84; Fig. 1)**, into which first and second edges of the window are received** (all edges of the window are inherently received or within the hollow cavity between channels 82 and 84)**, the glass run channels defining the path** (the cavity between the plane of glass run channels 82,82 and 84) **of travel of the window as the runner moves between the first and second positions** (as seen via Fig. 4)**.**

Regarding claim 3, **an arcuate window** (25; discussed in excerpt 2 above) **mounted to said carrier** (as depicted in Fig. 6)**, and further comprising a guide** (82,83 and 84; Fig's 1 and 4) **which engages the carrier** (via roller 89; Fig. 1)**, the carrier guides guide the window along a path coincident with the radius of curvature of the window as the runner moves between the first and second positions** (as depicted in Fig. 4)**.**

Regarding claim 9, **an upright guide rod** (32; Fig. 1) **having a central linear axis** (in its radial center; in the direction from the bottom of the rod to the top)**;**

a runner (65; Fig. 5) **connected to the rod for movement therealong between a lower position and an upper position** (as discussed above)**;**

a window carrier (27; Fig. 6) **engaged by the runner for movement thereby along the axis of the rod** (as depicted in Fig.'s 1 and 4)**; and**

an arcuate window (25; discussed in excerpt 2 above)**, having a radius of curvature, affixed to the carrier** (depicted in Fig. 6)**; and wherein, the runner and the carrier are rotatably** [capable of being rotated] **connected to each** (discussed in excerpt 1 above) **other about a rotational axis** (into the page of Fig. 6 and from the left to the right in Fig. 1) **orthogonal to the axis of the rod** (as just discussed) **and the carrier is radially movable** [capable of being moved radially] (interpreted as moves orthogonally to and from) **with respect to the central axis of the rod as the runner moves between the lower and upper positions to permit movement of the window along an arcuate path** (as discussed in excerpt 1 above, note that as the carrier

rotates, it is moving "radially" away or in an orthogonal direction away and closer to the central axis).

All of the elements of the instant invention are discussed in detail above except providing the guide or guides as having a radius of curvature as the same or equal to the radius of curvature of the window and, with regards to claim 3, having the radius of curvature of the guides be concentric with the radius of curvature of the window (the examiner notes that if the cavity or space within the guide 82 and 84 has the same radius of curvature of the window then the cavity of the guide (or simply the guide) and the window would be concentric). Attention shall be drawn to the fact that it would have been an obvious matter of design choice to a person of ordinary skill in the art to provide the guide and the window with equivalent radii of curvatures since discovering an optimum radius of curvature would have been a mere design consideration based on the characteristics of the window regulator. Such a modification would have involved only routine skill in the art to accommodate equivalent radii of curvatures with the guide and window. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 7, 8, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martens (US 3228677) as applied to claim 1 above, and further in view of Fin (US 6427385).

Regarding claim 7, Martens further teaches **the guide rod (32) as a straight threaded screw** (as discussed in excerpt 3 below, taken from column 2).

Excerpt 3

A reversible electric motor **30**, controlled by a switch not shown, and a straight helical screw **32** are operatively connected to the footing **27** for raising and lowering curved glass window panel **25**. The motor **30** is detachably secured to an upturned end **33** of a bracket **34**, which in turn is detachably secured to raised bosses in bottom **19** of the door. The output shaft of the motor **30** is connected by means of a flexible connector **35** to a gear reduction mechanism **37** mounted on a raised portion of bracket **34** and operatively connected to screw **32**.

Regarding claim 8, there is **a motor** (30; Fig. 1) **which** inherently **rotationally drives the rod about its central axis to move the runner between the first and second positions**.

Regarding claim 13, Martens further teaches **the linear element as a threaded drive rod** (32; Fig. 1; discussed in excerpt 3)**; and**

the runner translation means (assuming this is "the means for translating the runner") inherently **includes means for rotating the drive rod and preventing the rotation of the runner relative to the drive rod** (the force the carrier places on the runner at 69 and 70 prevent the runner from rotating)**.**

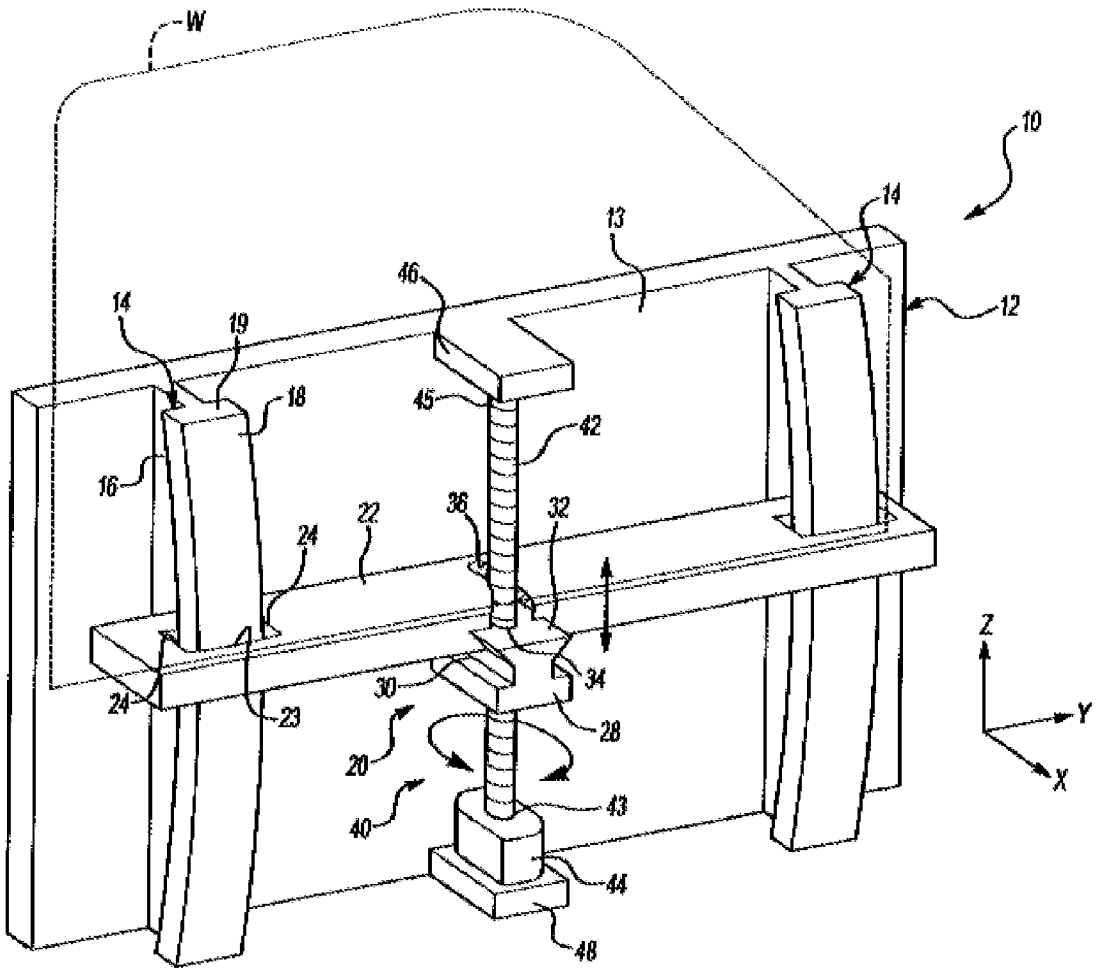
Regarding claim 14, **the runner rotation prevention means includes a channel** (75; Fig. 1) **formed in one of the carrier and the runner** (in this case the carrier) **extending substantially parallel to the first axis** (from the bottom of the channel to the top in Fig. 1)**, the other of the pair having a longitudinal body** (68; Fig. 6) **mounted in the channel.**

All of the elements of the instant invention are discussed in detail above except providing the runner as including a threaded bore for threadingly being received onto the rod. Attention, however, is directed to Fin which teaches a similar window lifting apparatus having a straight threaded screw (42; as shown below in 'Fin Figure') with a runner or drive block 28 having a threaded aperture (34; 'Fin Figure' and discussed in excerpt 4 below) which is threadingly received onto the screw or rod. It would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted the bearings in the runner as taught by Martens for the threaded aperture as taught by Fin since they were considered art recognized equivalents at the time of the invention.

Excerpt 4

The worm gear **42** is received within a threaded aperture **34** in the drive block **28**. The glass bar **22** includes a slot **36** that is at least partially aligned with the threaded aperture **34** to permit the worm gear **42** to extend through the glass bar **22**. The slot is elongated and arranged along the X direction. As the drive motor **44** rotatingly drives the worm gear **42**,

'Fin Figure'



Figures of Martens

Jan. 11, 1966 J. E. MARTENS 3,228,677

WINDOW REGULATOR

Original Filed July 11, 1960 2 Sheets-Sheet 1

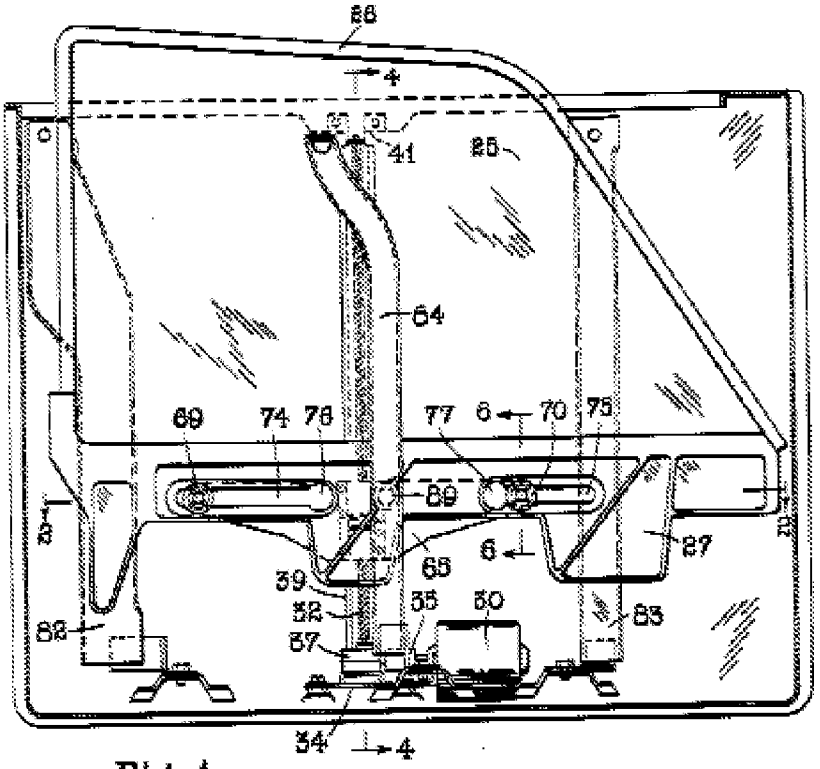


Fig. 1

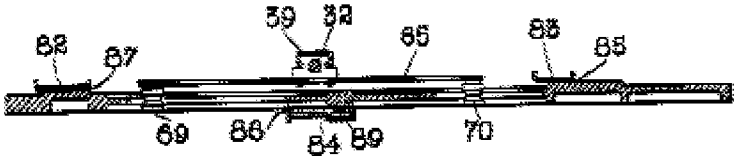


Fig. 2

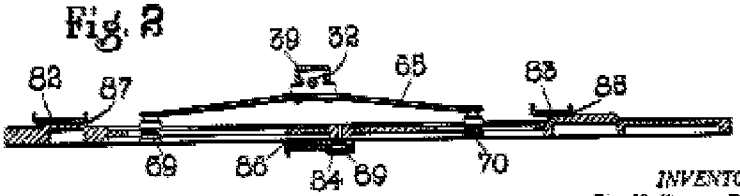


Fig. 3

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Jan. 11, 1966 J. E. MARTENS 3,228,677

WINDOW REGULATOR

Original Filed July 11, 1960 2 Sheets-Sheet 2

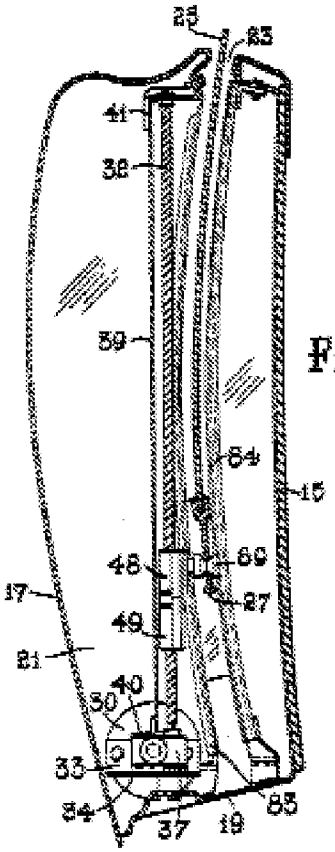

Fig. 4

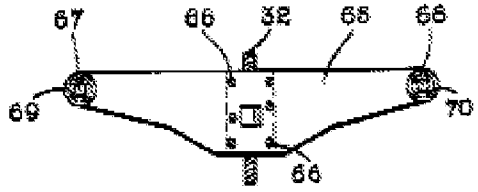

Fig. 5

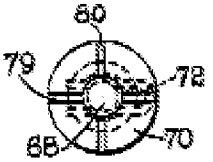

Fig. 7

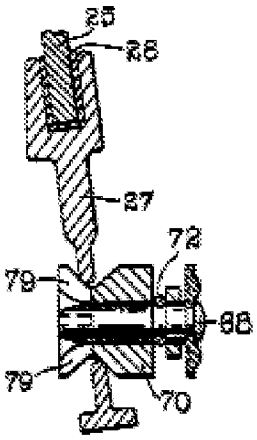

Fig. 6

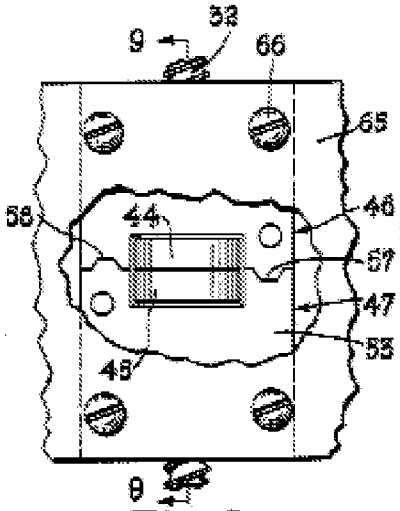

Fig 8

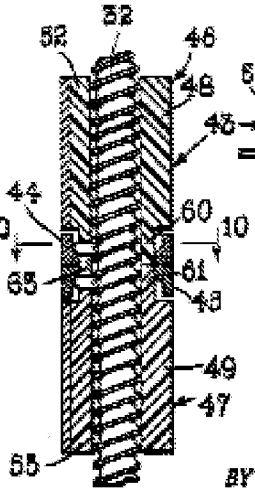

Fig. 9

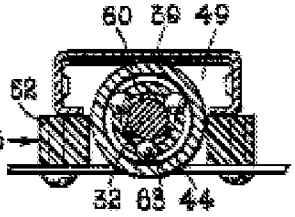

Fig. 10

INVENTOR.
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ATTORNEY

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL CAHN whose telephone number is (571)270-5616. The examiner can normally be reached on Monday through Friday (9 a. m. to 5 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Mitchell can be reached on 571-272-7069. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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